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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,177

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Jonghee Han

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EXAMINER

NGUYEN, VAN THU T

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,177

Applicant(s)

HAN ET AL.

Examiner

VanThu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 9-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 23-25, 27-30 is/are rejected.
- 7) ☒ Claim(s) 26 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/29/03; 4/18/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group I, claims 1-8, 23-31, in the reply filed on June 22 is acknowledged.

2. Applicants are requested to cancel claims 9-22 in the next response.

Specification

3. The abstract of the disclosure is objected to because it is not clear how the second circuit works, does the second circuit latch data in response to the strobe signal, and then re-latch the latched data again using the same second circuit in response to the pulses? (Abstract, lines 3-6). Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 4-6, it is not clear how the second circuit works. Does it mean the second circuit latches data in response to the strobe signal, and then re-latch the latched data again using the same second circuit in response to the pulses?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2, 4-5, 7-8, 23-25, 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Sawada (U.S. Patent No. 6,894,945).

Regarding claim 1, Sawada discloses, in FIGS. 1, 7-8, 10, 12-13, a random access memory (see FIG. 1), comprising:

a first circuit (SELECTOR 15 and ONE SHOT PULSE GENERATING CIRCUIT 22, see FIG. 8) configured to receive a strobe signal (DDQS signal, see FIGS. 8 and 13) and provide pulses (DQST pulses, see FIGS. 8 and 13) in response to transitions in the strobe signal; and

a second circuit (see FIG. 10) configured to receive the strobe signal (DQS, which is same as DDQS, see FIG. 10) to latch data (from Ext Din, see FIG. 10) into the second circuit, and to receive the pulses to latch the latched data into the second circuit after the transitions in the strobe signal (via DQST signal, see FIG. 10).

Regarding claim 2, Sawada discloses the first circuit comprises an inherent enable circuit (for providing TM signal, see FIG. 7) configured to provide an enable signal (TM signal); and a buffer circuit (SELECTOR 15 and ONE SHOT PULSE GENERATING CIRCUIT 22, see FIG. 8) configured to receive the strobe signal (DDQS) and the enable signal (TM) and provide the pulses (DQST) in response to the enable signal and the strobe signal.

Regarding claim 4, Sawada further discloses the first circuit provides one of the pulses during each cycle of the strobe signal and each cycle of a clock signal (see FIG. 13 for timing diagram of Ext. CLK, DQS, and DQST).

Regarding claim 5, Sawada also discloses the second circuit comprises a first latch (LATCH CIRCUIT 23, see FIG. 10) configured to latch first data (data "0" from Ext. Din) at first transitions (first DQS transition) in the strobe signal; and second latches (LATCH CIRCUITS 25 AND 24) configured to latch the latched first data (DILF0) from the first latch and second data (data "1" from Ext. Din) at second transitions in the strobe signal (second DQS transition).

Regarding claims 7-8, Sawada also discloses, the memory comprises a double data rate-I synchronous dynamic random access memory (see FIG. 15, when selector 33 choose Ext. DQS); a double data rate-II synchronous dynamic random access memory (see FIG. 15, when selector 33 choose DDQS).

Regarding claims 23-25, 27-30, they are rejected under U.S.C. 102(e) because they recite similar limitations as in claims 1-2, 4-5, 7-8.

Allowable Subject Matter

8. Claims 3, 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 26, 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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10. The following is a statement of reasons for the indication of allowance:

The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Sawada and Sonoda et al. (6,407,963) taken individually or in combination, do not teach the claimed invention having the following limitations, in combination with the remaining claimed limitations:

(i) wherein the enable circuit is configured to receive the pulses from the buffer circuit and stop providing the enable signal to the buffer circuit in response to receiving the pulses (as in claim 3); or

(ii) wherein the second circuit comprises: third latches configured to latch in the latched first and second data from the second latches with the pulses after the second transitions (as in claim 6); or

(iii) wherein the means for latching the latched data comprises a third latch stage configured to receive the pulse and latch the latched data into the third latch stage (as in claim 26); or

(iv) wherein generating the pulse comprises: receiving a signal at an enable circuit; generating an enable signal from a transition on the received signal; receiving the enable signal and the data strobe signal at a buffer circuit; generating a start of the pulse based on the received enable signal and the received data strobe signal; and receiving the start of the pulse at the enable circuit (as in claim 31).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sonoda et al. disclose first circuit generating DQSCK1 pulse in response to strobe

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DQSCK; data from DIN are latched in to FF1 in response to DQSCK1 and FF2 in response to DQSCK.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881.

The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 1, 2005


VanThu Nguyen
Primary Examiner
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